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# PATENT SPECIFICATION (21) 58,687/69

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Complete Specification  
entitled (54) DEVICE FOR SECURING PANELS TO STIFFENERS  
ON BALCONY OR STAIRCASE PARAPETS.

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Applicant (71) IPATEX S.A.

Actual Inventor (72) ANDRE GERARD BOS.

Related Art (56) 43533/64 81.8; 81.5.

The following statement is a full description of this invention, including the best method of performing it known  
to us:

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F. D. Atkinson, Government Printer, Canberra

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The present invention relates to a securing member for fixing panels made of metal, glass, synthetic materials and the like to constant-section stiffeners such as balusters or Newel post for balcony or staircase parapets.

In conventional devices such panels are retained by a member which grips their edges and is fixed to a baluster or Newel post by means of one or more screws. Such devices oblige the workmen to tap holes at specific places on the balusters, into which screws for securing the retaining members are inserted. Such devices are consequently not very practical and call for some precision in the work of assembly.

It is the object of the present invention to provide a securing member of low cost, which is quick and practical to use and does not require holes to be tapped in the balusters or Newel posts hereinafter referred to as stiffeners. A securing member according to the invention for fixing panels to constant-section stiffeners accordingly includes:

- a slide into which a panel possibly girdled by an extruded section can be engaged with slight clearance;
- a sleeve adjacent said slide, through which the stiffener is slidable with slight clearance and one face of which is open opposite said slide in order to enable one side of said stiffener to be in contact with the edge of the panel or its girdling element;
- securing means adapted to apply the stiffener and the edge of the panel or its girdling element against each other with adjustable pressure.

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The securing member according to the present invention is extremely simple and rapid to use: the stiffener is first inserted into its sleeve, through which it is thus slidable. The edge of the panel is then placed in the slide

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associated to the securing member, after which the latter is slid along the stiffener until, together with other similar securing members, it restrains the panel at the required height. The securing means are then caused to rigidly unite the securing member, the panel and the stiffener.

The axes of the slide and the sleeve of the securing member may be at right angles to each other. This applies in the case of a balcony parapet, the stiffeners being vertical and the two edges of the panel accommodated in the slides of the securing members being horizontal. Alternatively, the said axes may form a determinate angle with each other, notably an angle of approximately 35°. This applies in the case of a staircase parapet, the stiffeners being vertical and the two edges of the panels accommodated in the slides sloping at an angle equal to the angle of slope of the staircase.

In a preferred embodiment, said securing means consist in each case of an Allen screw cooperating with a tapped hole formed in the sleeve and capable, when tightened, of pressing the stiffener against the edge of the panel. It is thus possible by merely tightening a screw to restrain the securing member and the panel to the stiffener. Further, the said tapped hole formed on the sleeve may be located on the edge thereof and extend obliquely, in particular at substantially 45°, in relation to the axis of said sleeve. This lends greater eye-appeal to the securing assembly since the securing screw is concealed from anyone sitting or standing on the balcony.

The present invention further relates to a method of fabricating a securing member of the kind hereinbefore disclosed, in accordance with which the member is obtained by

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cutting it off an extruded section of suitable profile and machining thereon a slide to the thickness of the panels to be secured. This method ensures a very low production cost.

The description which follows with reference to the accompanying non-limitative exemplary drawings will give a clear understanding of the objects, features and advantages of the invention and of how the same can be carried into practice.

In the drawings :

- Figure 1 is a schematic portrayal of a parapet equipped with a member for securing panels mounted to form an uninterrupted band of vertical sheeting ;

- Figure 2 is a perspective showing of a securing member adapted to equip a balcony parapet of the kind shown in Figure 1 ; and

- Figure 3 shows in perspective a securing member adapted to equip a staircase parapet.

Referring first to Figure 1, the balcony 1 shown thereon is equipped with a parapet formed with solid panels 2 mounted to form a continuous band of vertical sheeting. These panels 2, which are made of glass in the exemplary embodiment shown in the drawings, could obviously be made of metal, synthetic material, or the like, if desired. Through the panels 2 and projecting from the edges thereof are visible vertical stiffeners 3 to the ends of which is fixed a handrail 4. The glass panels 2 are girdled by an extruded section 5 which is gripped by securing members 6 rigid with the stiffeners 3.

Reference is next had to Figure 2 for a perspective showing of one of the securing members 6. The latter includes

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a sleeve 7 slidable along stiffener 3 and a slide 8 into which engages the extruded section 5 girdling the panel 2. The axes of sleeve 7 and slide 8 are at right angles to each other, thereby allowing the panels 2 to be fitted in position as shown in Figure 1.

Sleeve 7 is furthermore formed with a tapped hole therein into which may be screwed a pressure-screw 9 which upon being tightened down applies extruded section 5 against stiffener 3 and rigidly unites the extruded section, the securing member and the stiffener.

Obviously, the screw 9 could alternatively be located beneath the sleeve 7, on the edge thereof, so as to be concealed from persons on the balcony : in such cases the screw 9 extends at an angle to the horizontal, for instance at an angle of 45°.

The advantage of the above-disclosed system will readily be appreciated, since it enables panels such as the panels 2 to be fixed at the required height with great speed.

It should be noted moreover that the subject securing member or this invention will allow the workmen to fix a provisional safety bar to the ends of the stiffeners after the latter have been sealed in position, thereby enabling them to work at finishing the building in complete safety.

The panels 2 could be opaque to conceal the stiffeners, in order to prevent visible vertical lines from detracting from the overall harmony of the facade.

Reference is lastly had to Figure 3 for a showing of staircase steps 10, a stiffener 11 and a member 12 for securing a panel 13. The component parts of the member 12 are likewise visible, to wit a sleeve 14, a slide 15 and a pressure-screw 16.

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In this instance however the axes of slide 15 and sleeve 14 are no longer orthogonal but form between them an angle equal to the angle of slope of the staircase, namely  $35^\circ$  in the illustrated example. The resulting ease with which panels can be mounted in stair-wells will readily be appreciated.

Securing members such as the member 6 or 12 can be fabricated by cutting up a sectional member of appropriate shape and then machining the slide to the thickness of the panels to be secured. Such a fabrication process reduces the cost of such parts to a minimum.

It goes without saying that the present invention is by no means limited to the forms of embodiment specifically described hereinabove but includes broadly any alternative embodiment or improvement readily available to the specialist in the art.

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The claims defining the invention are as follows:

1. A securing member for fixing panels to constant-section balusters or Newel posts such as stiffeners for balcony or staircase parapets, characterized in that it includes:
  - a slide into which is engageable with slight clearance the edge of a panel possibly girdled by an extruded section;
  - a sleeve adjacent said slide, through which said stiffener is slideable with slight clearance and of which one face is open opposite said slide whereby to allow one side of said stiffener to be in contact with an edge portion of a face of the panel or with a possible girdling element thereon;
  - securing means adapted to apply said stiffener against the edge of the panel (or its possible girdling element) with adjustable pressure.
2. A securing member according to Claim 1, characterized in that the axes of the slide and the sleeve are mutually perpendicular when said member is viewed in elevation.
3. A securing member according to Claim 1, characterized in that the axes of the slide and the sleeve form therebetween an angle of approximately  $35^{\circ}$  when said member is viewed in elevation.
4. A securing member according to Claim 1, characterized in that said securing means are formed by an Allen screw which cooperates with a tapped hole formed in said sleeve and which upon being tightened down presses said stiffener against the edge of the panel (or its possible girdling element).

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5. A securing member according to Claim 4, characterized in that said tapped hole provided in said sleeve is located on the end-section thereof and extends at an angle, notably of substantially  $45^{\circ}$ , to the axis of said sleeve.

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6. A method of fabricating a securing member according to Claim 1, characterized in that said member is obtained by cutting it off an extruded shape of appropriate section and then machining the slide to the thickness of the panels to be secured.

7. A securing member for fixing panels substantially as shown in and as described with reference to Fig. 2 or Fig. 3 of the accompanying drawings.

DATED this 23rd day of July, 1969

IPATEX S.A.

Patent Attorneys for the Applicant:

F.B. RICE & CO.

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FIG. 1

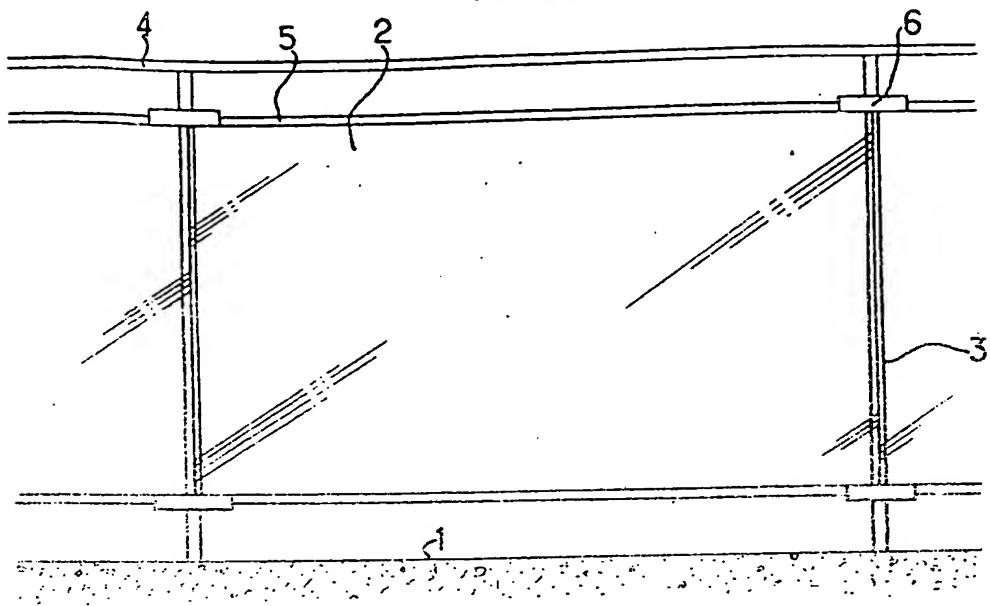
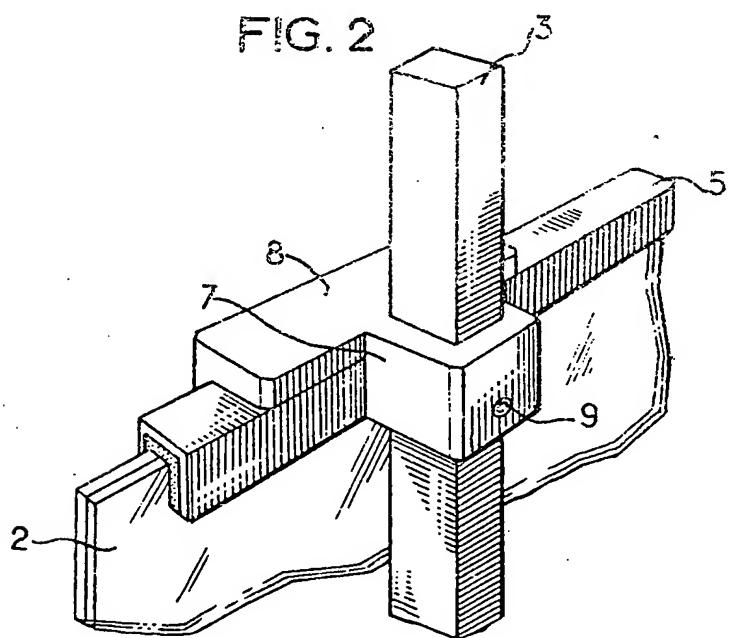


FIG. 2

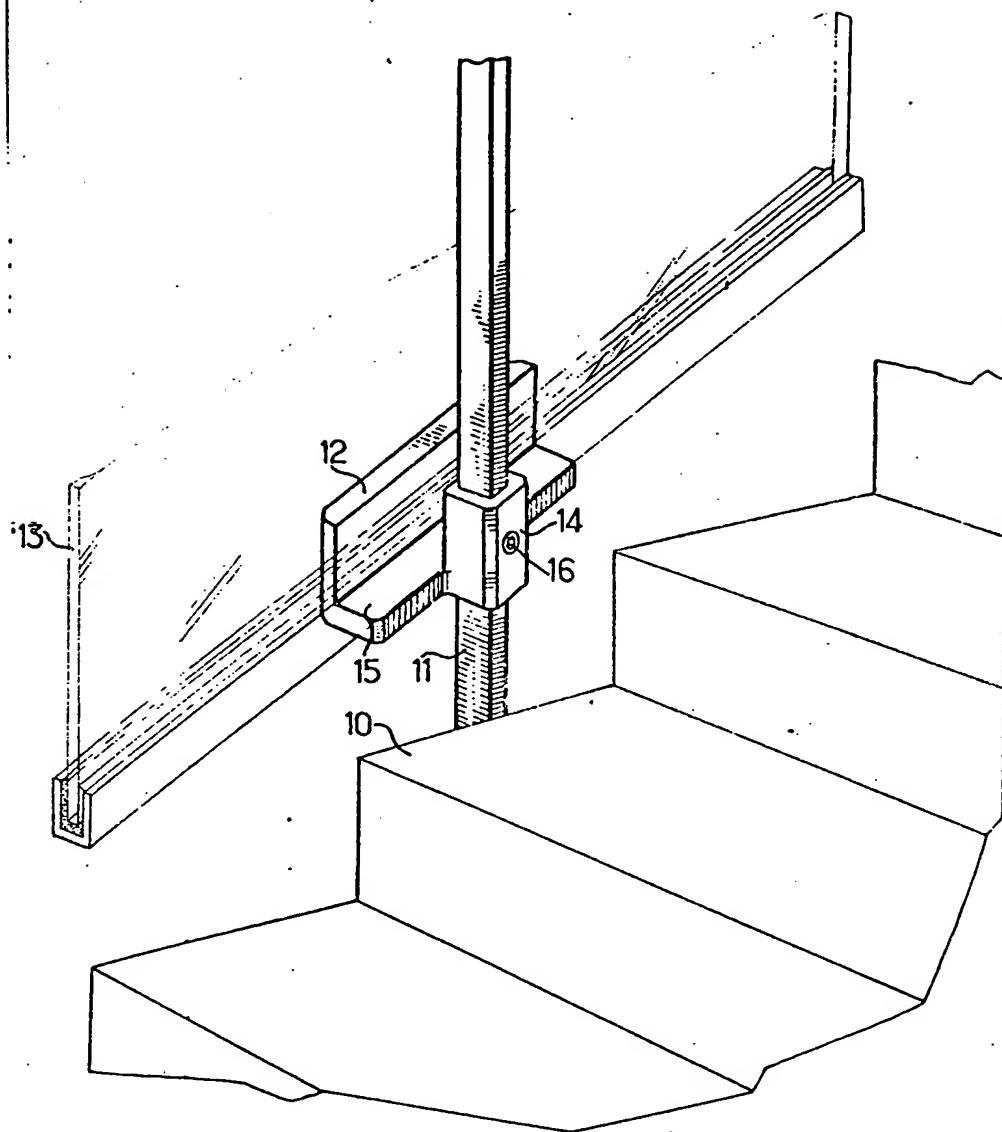


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Fig.3



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